PHYS 315 Operational Amplifier Lab Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Apparatus: Heath kit Electronic design experimenter, digital multimeter, and oscilloscope.



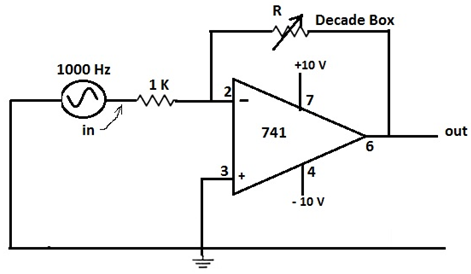
a. Setting up the bias voltages: Use a digital multi meter and set the + and – DC voltages to +10V and -10 V.

b. Setting up the input ac signal: Use the oscilloscope and set the input signal to 1000 Hz at about 0.2 v ptp, using the 100 KΩ potentiometer, as shown below.  


2. Identifying the 741 op-amp terminals:

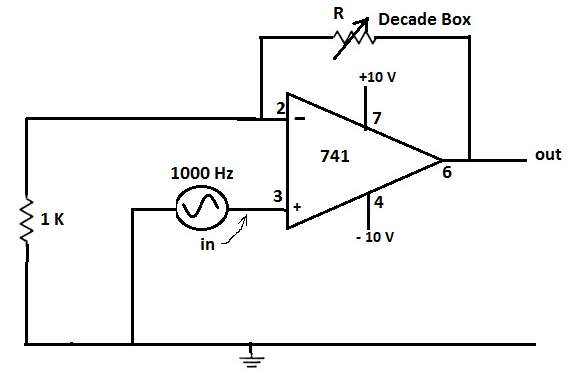
|  |  |
| --- | --- |
|  | Op Amp 741.gif |

3. Inverting amplifier: Set up the circuit below, and complete the following data table.



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| R (kΩ) | gain, a (calculated) | V in (ptp volt) | V out (ptp volt) | gain (measured) |
| 5 |  |  |  |  |
| 10 |  |  |  |  |
| 15 |  |  |  |  |
| 20 |  |  |  |  |

4. Non-inverting amplifier: Set up the circuit below, and complete the following data table.



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| R (kΩ) | gain, a (calculated) | V in (ptp volt) | V out (ptp volt) | gain (measured) |
| 5 |  |  |  |  |
| 10 |  |  |  |  |
| 15 |  |  |  |  |
| 20 |  |  |  |  |

5. Follower: Set up the following circuit and measure the gain.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
